FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
BASF Corporation

AUTHORIZING THE OPERATION OF
BASF Freeport Site
Sodium Acrylate Polymer Plant
All Other Basic Organic Chemical Manufacturing

LOCATED AT
Brazoria County, Texas
Latitude 29° 0' 5" Longitude 95° 24' 31"
Regulated Entity Number: RN100218049

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O2907 Issuance Date: _____

_____
For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

    A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

    B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

    C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

    D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

    E. Emission units subject to 40 CFR Part 63, Subparts FFFF and ZZZZ, as identified in the attached Applicable Requirements Summary table, are subject to 30 TAC Chapter 113,

Subchapter C, §113.890 and §113.1090, respectively, which incorporates the 40 CFR Part 63 Subpart by reference.

F. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 101.302 (relating to General Provisions)

(ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)

(iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)

(iv) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)

(v) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit

G. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:

(i) Title 30 TAC § 101.352 (relating to General Provisions)

(ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)

(iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)

(iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)

(v) Title 30 TAC § 101.358 (relating to Emission Monitoring and Compliance Demonstration)

(vi) Title 30 TAC § 101.359 (relating to Reporting)

(vii) Title 30 TAC § 101.360 (relating to Level of Activity Certification)

(viii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit

H. For the purpose of generating discrete emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 4 (Discrete Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 101.372 (relating to General Provisions)

(ii) Title 30 TAC § 101.373 (relating to Discrete Emission Reduction Credit Generation and Certification)

(iii) Title 30 TAC § 101.374 (relating to Mobile Discrete Emission Reduction Credit Generation and Certification)

(iv) Title 30 TAC § 101.378 (relating to Discrete Emission Credit Banking and Trading)

(v) The terms and conditions by which the emission limits are established to generate the discrete reduction credit are applicable requirements of this permit

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

B. Title 30 TAC § 101.3 (relating to Circumvention)

C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

H. Title 30 TAC § 101.221 (relating to Operational Requirements)

I. Title 30 TAC § 101.222 (relating to Demonstrations)

J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

(i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(1)(E)

(iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

(iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that

does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is

determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

(c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)

(iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:

(1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.

(2) Records of all observations shall be maintained.

(3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A)

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

C. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

D. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).

E. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

4. For industrial wastewater specified in 30 TAC Chapter 115, Subchapter B, the permit holder shall comply with the following requirements for wastewater drains, junction boxes, lift stations and weirs:

A. Title 30 TAC § 115.142(1)(E) and (F) (relating to Control Requirements)

B. Title 30 TAC § 115.146 (relating to Recordkeeping Requirements)

5. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

B. Title 40 CFR § 60.8 (relating to Performance Tests)

C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

D. Title 40 CFR § 60.12 (relating to Circumvention)

E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

F. Title 40 CFR § 60.14 (relating to Modification)

G. Title 40 CFR § 60.15 (relating to Reconstruction)

H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

6. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

7. For miscellaneous chemical process facilities subject to maintenance wastewater requirements as specified in 40 CFR § 63.2485, Table 7, the permit holder shall comply with the requirements of 40 CFR § 63.105 (relating to Maintenance Wastewater Requirements) (Title 30 TAC Chapter 113, Subchapter C, § 113.890 incorporated by reference).

8. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the permit holder shall submit a revision application to codify the appropriate requirements in the permit.

Additional Monitoring Requirements

9. The permit holder shall comply with the periodic monitoring requirements as specified in the attached “Periodic Monitoring Summary” upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the “Periodic Monitoring Summary,” for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

10. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:

    A. Are incorporated by reference into this permit as applicable requirements

    B. Shall be located with this operating permit

    C. Are not eligible for a permit shield

11. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.

12. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

13. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

14. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:

    A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:

        (i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:

            (1) Title 30 TAC § 117.9020(2)(A), (C), and (D)

    B. The permit holder shall comply with the Initial Control Plan unit listing requirement in 30 TAC § 117.350(c) and (c)(1).

C. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.

15. Use of Emission Credits to comply with applicable requirements:

A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) Offsets for Title 30 TAC Chapter 116

B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)-(d)

(ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1

(iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)-(d)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)

16. Use of Discrete Emission Credits to comply with the applicable requirements:

A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) If applicable, offsets for Title 30 TAC Chapter 116

(iv) Temporarily exceed state NSR permit allowables

B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Protection of Stratospheric Ozone

17. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:

A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

Permit Location

18. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

19. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
15-3-1	Emission Points/Stationary Vents/Process Vents	N/A	111A-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
15-3-1	Emission Points/Stationary Vents/Process Vents	N/A	115B-1	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
15-3-1	Emission Points/Stationary Vents/Process Vents	N/A	63FFFF-1	40 CFR Part 63, Subpart FFFF	No changing attributes.
15-3-BG1	SRIC Engines	N/A	117B-1	30 TAC Chapter 117, Subchapter B	No changing attributes.
15-3-BG1	SRIC Engines	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
15-3-BG1	SRIC Engines	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
15-3-D6120	Storage Tanks/Vessels	N/A	115B-1	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
15-3-D6120	Storage Tanks/Vessels	N/A	63FFFF-1	40 CFR Part 63, Subpart FFFF	No changing attributes.
15-3-D6180	Storage Tanks/Vessels	N/A	115B-1	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
15-3-LOAD	Loading/Unloading Operations	N/A	115C-1	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia., Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized., Chapter 115 Control Device Type = No control device., Control Options = Vapor balance system., Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
15-3-LOAD	Loading/Unloading Operations	N/A	115C-2	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure less than 0.5 psia.
GRP-TANKS2	Storage Tanks/Vessels	15-3-D6055, 15-3-D6130, 15-3-D6145, 15-3-D6150, 15-3-D6170, 15-3-D6400	115B-1	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRP-VENTS1	Emission Points/Stationary Vents/Process Vents	MIXTANK1, MIXTANK2	115B-1	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
PROSAP	Chemical Manufacturing Process	N/A	63FFFF-1	40 CFR Part 63, Subpart FFFF	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
15-3-1	EP	111A-1	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
15-3-1	EP	115B-1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(C)	Vent gas streams affected by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices).	[G]§ 115.125 § 115.126(1) § 115.126(1)(C) § 115.126(2) ** See Periodic Monitoring Summary	§ 115.126 § 115.126(1) § 115.126(1)(C) § 115.126(2)	None
15-3-1	EP	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2455(a)-Table 1.1.a.i § 63.2450(b) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.990(a)(1) § 63.990(a)(2) § 63.996(c)(1) § 63.996(c)(2) § 63.996(c)(2)(i) § 63.996(c)(3) § 63.996(c)(4) § 63.996(c)(5)	For each Group 1 continuous process vent, the owner or operator must reduce emissions of total organic HAP by greater than or equal to 98 percent by weight by venting emissions through a closed-vent system to any combination of control devices (except flare).	[G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(6) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.990(b) § 63.990(c) § 63.990(c)(1) § 63.996(b)(1)	§ 63.2450(k)(6) § 63.2525(g) § 63.2525(h) § 63.983(b) [G]§ 63.983(d)(2) § 63.990(c) § 63.996(c)(2)(ii) § 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(C)(1) § 63.998(a)(2)(ii)(C)(4) § 63.998(a)(2)(ii)(C)(5) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(i) [G]§ 63.998(c)(3)(ii) § 63.998(c)(3)(iii)	§ 63.2450(q) § 63.996(b)(2) § 63.996(c)(6) § 63.997(c)(3) § 63.998(a)(2)(ii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) [G]§ 63.999(b)(3) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.996(c)(6) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d)		§ 63.996(b)(1)(i) § 63.996(b)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iv) § 63.997(c)(3)(v) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) [G]§ 63.997(e)(2)(i)(A) § 63.997(e)(2)(ii) § 63.997(e)(2)(iv) § 63.997(e)(2)(iv)(A) [G]§ 63.997(e)(2)(iv)(B) § 63.997(e)(2)(iv)(C) § 63.997(e)(2)(iv)(D) § 63.997(e)(2)(iv)(F) § 63.997(e)(2)(iv)(G) [G]§ 63.997(e)(2)(iv)(H)	[G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5)	
15-3-BG1	EU	117B-1	Exempt	30 TAC Chapter 117, Subchapter B	[G]§ 117.303(a)(11) [G]§ 117.310(f)	Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B)			
15-3-BG1	EU	60IIII-1	NO_x	40 CFR Part 60, Subpart IIII	§ 60.4205(a)-Table 1 § 60.4206 § 60.4207(b) § 60.4211(b) § 60.4211(b)(1) [G]§ 60.4211(f) § 60.4218	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 37 KW and a displacement of less than 10 liters per cylinder and is a pre-2007 model year must comply with a NOx emission limit of 9.2 g/KW-hr, as listed in Table 1 to this subpart.	§ 60.4209(a)	§ 60.4214(b)	None
15-3-BG1	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
15-3-D6120	EU	115B-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
15-3-D6120	EU	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2470(a)-Table4.1.b.ii § 63.2450(b) § 63.2470(a) § 63.2470(d) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.990(a)(1) § 63.990(a)(2) § 63.996(c)(1) § 63.996(c)(2) § 63.996(c)(2)(i) § 63.996(c)(3) § 63.996(c)(4) § 63.996(c)(5) § 63.996(c)(6) § 63.997(b)(1) § 63.997(c)(3)	For each Group 1 storage tank for which the maximum true vapor pressure of total HAP at the storage temperature is < 76.6 kilopascals, you may reduce total HAP emissions by > 95 percent by weight by venting emissions through a closed vent system to any combination of control devices (excluding a flare).	[G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(6) § 63.2470(c)(1) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.990(b) § 63.990(c) § 63.990(c)(1) § 63.996(b)(1) § 63.996(b)(1)(i) § 63.996(b)(2) § 63.997(b) § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iv) § 63.997(c)(3)(v)	§ 63.2450(k)(6) § 63.2470(c)(1) § 63.2525(g) § 63.2525(h) § 63.983(b) [G]§ 63.983(d)(2) § 63.990(c) § 63.996(c)(2)(ii) § 63.998(a)(2)(ii)(C)(1) § 63.998(a)(2)(ii)(C)(4) § 63.998(a)(2)(ii)(C)(5) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5)	§ 63.2450(q) § 63.2470(d) § 63.996(b)(2) § 63.996(c)(6) § 63.997(b)(1) § 63.997(c)(3) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(b)(3) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
15-3-D6180	EU	115B-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None
15-3-LOAD	EU	115C-1	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.212(a)(3) § 115.212(a)(2) § 115.212(a)(3)(A) § 115.212(a)(3)(A)(i) § 115.212(a)(3)(B) [G]§ 115.212(a)(3)(C) § 115.212(a)(3)(D) § 115.214(a)(1)(B) § 115.214(a)(1)(C)	All land-based VOC transfer to or from transport vessels shall be conducted in the manner specified for leak-free operations.	§ 115.212(a)(3)(B) § 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.214(a)(1)(A)(ii) § 115.214(a)(1)(A)(iii)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(iii)	None
15-3-LOAD	EU	115C-2	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(1) § 115.212(a)(2) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None
GRP-TANKS2	EU	115B-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
GRP-VENTS1	EP	115B-1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2)	A vent gas stream having a combined weight of volatile organic compounds (VOC) equal to or less than 100 pounds in any continuous 24-hour period is exempt	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						from §115.121(a)(1) of this title.			
GRP-VENTS1	EP	115B-1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(2)(B) [G]§ 115.122(a)(4) § 115.127(a)(2)	A vent gas stream specified in §115.121(a)(1) of this title with a concentration of VOC less than 612 parts per million by volume (ppmv) is exempt from §115.121(a)(1) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
PROSAP	PRO	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2440(a) § 63.2450(a) § 63.2450(l)	This subpart applies to each miscellaneous organic chemical manufacturing affected source.	§ 63.2445(d)	§ 63.2525 § 63.2525(a) [G]§ 63.2525(b) § 63.2525(c) § 63.2525(f) § 63.2525(j)	§ 63.2435(d) § 63.2445(c) § 63.2450(g)(5) § 63.2450(m) § 63.2450(m)(1) § 63.2450(m)(2) § 63.2515(a) § 63.2515(b)(2) § 63.2515(c) § 63.2520(a) [G]§ 63.2520(b) [G]§ 63.2520(c) [G]§ 63.2520(d) § 63.2520(e) § 63.2520(e)(1) [G]§ 63.2520(e)(10) § 63.2520(e)(2) § 63.2520(e)(3) § 63.2520(e)(4) § 63.2520(e)(5) § 63.2520(e)(5)(i) [G]§ 63.2520(e)(5)(ii) [G]§ 63.2520(e)(5)(iii) § 63.2520(e)(6) § 63.2520(e)(7) § 63.2520(e)(9)

Additional Monitoring Requirements

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 15-3-1	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: 111A-1
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Opacity	
Minimum Frequency: Once per month	
Averaging Period: Six-minutes	
Deviation Limit: Opacity shall not exceed 15% averaged over a six-minute period.	
Periodic Monitoring Text: Opacity shall be monitored, by a certified observer, for at least one, six-minute period in accordance with Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9. Any opacity readings above the deviation limit shall be reported as a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 15-3-1	
Control Device ID No.: 15-3-T6600	Control Device Type: Absorber (Caustic Absorber)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: 115B-1
Pollutant: VOC	Main Standard: § 115.122(a)(1)
Monitoring Information	
Indicator: pH level	
Minimum Frequency: Once per minute	
Averaging Period: Six minutes	
Deviation Limit: The minimum pH level shall not be below 10.5.	
Periodic Monitoring Text: Each monitoring device shall be cleaned with an automatic cleaning system, or cleaned weekly using hydraulic, chemical, or mechanical cleaning. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least weekly, whichever is more frequent, and shall be accurate to within ± 0.5 pH units.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 15-3-1	
Control Device ID No.: 15-3-T6600	Control Device Type: Absorber (Caustic Absorber)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: 115B-1
Pollutant: VOC	Main Standard: § 115.122(a)(1)
Monitoring Information	
Indicator: Liquid flow rate	
Minimum Frequency: Every six minutes	
Averaging Period: Six minutes	
Deviation Limit: The minimum liquid flow rate shall not be below 4222.35 gpm.	
Periodic Monitoring Text: Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following: " ± 2% of span; or " ± 5% of design liquid flow rate.	

Permit Shield

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
15-3-CTWR	N/A	40 CFR Part 63, Subpart Q	Industrial process cooling tower does not use chromium-based water treatment chemicals after 09/08/1994.
15-3-D6120	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity greater than 151 m3 storing a liquid with a maximum TVP less than 3.5 kPa.
15-3-D6180	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity greater than 151 m3 storing a liquid with a maximum TVP less than 3.5 kPa.
15-3-D6800	N/A	30 TAC Chapter 115, Industrial Wastewater	Wastewater stream has a VOC concentration less than 1000 ppmw.
15-3-T6810	N/A	40 CFR Part 60, Subpart NNN	Distillation unit does not produce any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate.
GRP-FUGS	15-3-FUGS, 15-3-FUGSTK, 15-3-RECFUG	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	Site is not a petroleum refinery, a synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process, or a natural gas/gasoline processing operation.
GRP-FUGS	15-3-FUGS, 15-3-FUGSTK, 15-3-RECFUG	40 CFR Part 60, Subpart VV	Production area does not manufacture, as a product or intermediate, any SOCMI chemical listed in 40 CFR §60.489.
GRP-REACTORS1	15-3-R1200, 15-3-R2200, 15-3-R3200	40 CFR Part 60, Subpart RRR	Reactor does not produce any of the SOCMI chemicals listed in 40 CFR §60.707.
GRP-TANKS1	15-3-D6049, 15-3-D6050, 15-3-D6141	30 TAC Chapter 115, Storage of VOCs	Storage vessel does not store a VOC.
GRP-TANKS1	15-3-D6049, 15-3-D6050, 15-3-D6141	40 CFR Part 60, Subpart Kb	Storage vessel does not store a VOL.
GRP-TANKS2	15-3-D6055, 15-3-D6130, 15-3-D6145, 15-3-D6150, 15-3-D6170, 15-3-D6400	40 CFR Part 60, Subpart Kb	Storage vessel capacity is less than 75 m3.
GRP-TANKS3	AATOTE, NEUTOTE	30 TAC Chapter 115, Storage of VOCs	Storage vessel capacity is less than 1000 gallons.

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRP-TANKS3	AATOTE, NEUTOTE	40 CFR Part 60, Subpart Kb	Storage vessel capacity is less than 75 m3.
ORP-10	N/A	30 TAC Chapter 117, Subchapter B	Dryer is not a lime kiln, lightweight aggregate kiln, or magnesium chloride fluidized bed dryer.

New Source Review Authorization References

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Nonattainment (NA) Permits	
NA Permit No.: N126	Issuance Date: 10/20/2015
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 55239	Issuance Date: 10/20/2015
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.124	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.472	Version No./Date: 09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
15-3-1	SCRUBBER OUTLET	55239, N126
15-3-BG1	EMERGENCY ENGINE	55239, N126
15-3-CTWR	COOLING TOWER	55239, N126
15-3-D6049	BRUGGOLITE STORAGE TANK	106.472/09/04/2000
15-3-D6050	BRUGGOLITE STORAGE TANK	106.472/09/04/2000
15-3-D6055	CITRIC ACID STORAGE TANK	55239, N126
15-3-D6120	ACRYLIC ACID STORAGE TANK	55239, N126
15-3-D6130	PROPANEDIOL STORAGE TANK	55239, N126
15-3-D6141	ALUMINUM LACTATE STORAGE TANK	106.472/09/04/2000
15-3-D6145	CROSS LINK STORAGE TANK	55239, 106.261/11/01/2003, 106.262/11/01/2003, N126
15-3-D6150	ISOPROPANOL STORAGE TANK	55239, N126
15-3-D6170	NEUTRALIZATION DRUM	55239, N126
15-3-D6180	WASTEWATER TANK	55239, N126
15-3-D6400	CHILLED WATER STORAGE TANK	55239, N126
15-3-D6800	IPA ABSORPTION TOWER BOTTOMS	55239, N126
15-3-FUGS	MAIN BUILDING FUGITIVES	55239, N126
15-3-FUGSTK	STORAGE TANK AREA FUGITIVES	55239, N126
15-3-LOAD	SAP LOADING AND UNLOADING	55239, N126
15-3-R1200	REACTOR	55239, N126
15-3-R2200	REACTOR	55239, N126
15-3-R3200	REACTOR	55239, N126

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
15-3-RECFUG	ISOPROPANOL RECOVERY SYSTEM FUGITIVES	55239, N126
15-3-T6810	IPA RECOVERY DISTILLATION TOWER	55239, N126
AATOTE	ACRYLIC ACID TOTE	106.124/09/04/2000
MIXTANK1	MONOMER STORAGE TANK	106.124/09/04/2000
MIXTANK2	MONOMER STORAGE TANK	106.124/09/04/2000
NEUTOTE	NEUTRALIZER TOTE	106.124/09/04/2000
ORP-10	SAP PILOT PLANT DRYER	106.262/11/01/2003
PROSAP	MISCELLANEOUS ORGANIC CHEMICAL PROCESS UNIT	55239, N126

Appendix A

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
CEMS ..... continuous emissions monitoring system
CFR ..... Code of Federal Regulations
COMS ..... continuous opacity monitoring system
CVS ..... closed vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MACT ..... Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr ..... Million British thermal units per hour
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NESHAP ..... National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PEMS ..... predictive emissions monitoring system
PM ..... particulate matter
ppmv ..... parts per million by volume
PRO ..... process unit
PSD ..... prevention of significant deterioration
psia ..... pounds per square inch absolute
SIP ..... state implementation plan
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Major NSR Summary Table

Permit Numbers: 55239 and N126					Issuance Date: 10/20/2015		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond.**	**Spec. Cond.**	**Spec. Cond.**
15-3-1	T-6600 Scrubber Outlet (6)	Acrylic Acid	1.67	7.25	4, 5, 10, 11, 12, 13, 14, 19, 22, 25	4, 5, 13, 14, 19, 22, 25	4, 5, 14
		VOC	2.86	12.45			
15-3-2	Central Dust Collection Outlet	PM	0.33	0.73	8		
		PM_{10}	0.33	0.73			
		$PM_{2.5}$	0.33	0.73			
15-3-3	Outlet Pneumatics Line - Train 1	PM	1.16	2.23	8		
		PM_{10}	1.16	2.23			
		$PM_{2.5}$	1.16	2.23			
15-3-4	Outlet Pneumatics Line - Train 2	PM	1.15	2.20	8		
		PM_{10}	1.15	2.20			
		$PM_{2.5}$	1.15	2.20			
15-3-5	Outlet Pneumatics Line - Train 3	PM	1.15	2.20	8		
		PM_{10}	1.15	2.20			

Major NSR Summary Table

Permit Numbers: 55239 and N126					Issuance Date: 10/20/2015		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond.**	**Spec. Cond.**	**Spec. Cond.**
		$PM_{2.5}$	1.15	2.20			
15-3-7	Propanediol Storage Tank	VOC	0.18	<0.01	9	9	
15-3-8	Isopropanol Storage Tank	VOC	30.29	0.10	9	9	
15-3-10	SiperNat Bagging	PM	0.32	1.40	8		
		PM_{10}	0.32	1.40			
		$PM_{2.5}$	0.32	1.40			
15-3-11	Waste Water Tank No. 1	VOC	0.13	<0.01	9	9	
15-3-12	Chilled Water/EG Tank	VOC	<0.01	<0.01	9	9	
15-3-15	Ethylene Carbonate Storage Tank	VOC	<0.01	<0.01	9	9	
15-3-16	Aluminum Lactate Storage Tank	VOC	<0.01	<0.01	9	9	
15-3-17	Polyethylene Polymer Solution Tank	VOC	<0.01	<0.01	9	9	
15-3-18	FF7 Storage Tank Loading	PM	<0.01	<0.01			
		PM_{10}	<0.01	<0.01			

Major NSR Summary Table

Permit Numbers: 55239 and N126					Issuance Date: 10/20/2015		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond.**	**Spec. Cond.**	**Spec. Cond.**
		$PM_{2.5}$	<0.01	<0.01			
15-3-D6049	PE7 Storage Tank	VOC	<0.01	<0.01	9	9	
15-3-D6050	PE7 Storage Tank	VOC	<0.01	<0.01	9	9	
15-3-FUGS	Fugitives (5)(6)	Acrylic Acid	0.04	0.20	4, 5, 6, 21	4, 5, 6, 21	4, 5, 6
		VOC	0.05	0.20			
15-3-RecFu	Isopropanol Recovery System Fugitives (5)	Isopropanol	0.03	0.13	6, 21	6, 21	6
15-3-CT2	Cooling Tower	VOC	0.11	0.48	15, 16	15, 16	
		PM	0.12	0.54			
		PM_{10}	0.08	0.36			
		$PM_{2.5}$	0.03	0.13			
TAR SAPMSS	Plant Turnaround MSS Emissions	VOC	34.85	0.56	4, 5, 19, 20, 22, 23	4, 5, 17, 18, 19, 20, 22, 23	4, 5
		NH_3	0.06	0.01			
		PM	0.04	0.19			
		PM_{10}	0.04	0.19			

Major NSR Summary Table

Permit Numbers: 55239 and N126					Issuance Date: 10/20/2015		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond.**	**Spec. Cond.**	**Spec. Cond.**
		$PM_{2.5}$	0.04	0.19			
RTN SAPMSS	Routine MSS Emissions	VOC	20.99	0.86	4, 5, 19, 20, 22, 23	4, 5, 17, 18, 19, 20, 22, 23	4, 5
		NH_3	0.05	0.01			
		PM	0.05	0.20			
		PM_{10}	0.05	0.20			
		$PM_{2.5}$	0.05	0.20			

Footnotes:

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NH_3 - ammonia
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Acrylic acid emissions are included in the VOC emission rates for this EPN.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A Permit Is Hereby Issued To
BASF Corporation
Authorizing the Continued Operation of
Sodium Acrylate Polymer Plant
Located at **Freeport, Brazoria County, Texas**
Latitude 29° 0′ 3″ Longitude −95° 23′ 47″

Permits: 55239 and N126

Issuance Date : October 20, 2015

Expiration Date: October 20, 2025

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code 116.116 (30 TAC 116.116)] [1]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC 116.120(a), (b) and (c)]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC 116.115(b)(2)(B)(iii)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is

also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)] [1]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Special Conditions

Permit Numbers 55239 and N126

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

Federal Applicability

3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):

   A. Subpart A, General Provisions.

   B. Subpart IIII for Stationary Compression Ignition Internal Combustion Engines.

4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:

   A. Subpart A, General Provisions.

   B. Subpart FFFF for Miscellaneous Organic Chemical manufacturing.

   C. Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines.

5. If any condition of this permit is more stringent than the applicable regulations in Special Condition Nos. 3 and 4, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

Piping, Valves, Flanges, Pumps, and Compressors in VOC Service - Intensive Directed Maintenance (28MID)

6. Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment:

   A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure.

Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made available upon request.

The exempted components may be identified by one or more of the following methods:

(1) piping and instrumentation diagram (PID);

(2) a written or electronic database or electronic file;

(3) color coding;

(4) a form of weatherproof identification; or

(5) designation of exempted process unit boundaries.

B. Construction of new and reworked piping, valves, pump systems, agitators, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

(1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or

(2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph.

An approved gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained. Replaced components shall be re-monitored within 15 days of being placed back into VOC service.

G. All new and replacement pumps, compressors, and agitators shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems need not be monitored and may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless

pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

All other pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly.

H. Damaged or leaking valves, connectors, compressor seals, pump seals, and agitator seals found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

I. In lieu of the monitoring frequency specified in paragraph F, valves in gas and light liquid service may be monitored on a semiannual basis if the percent of valves leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Valves in gas and light liquid service may be monitored on an annual basis if the percent of valves leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of valves leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

J. The percent of valves leaking used in paragraph I shall be determined using the following formula:

$$(Vl + Vs) \times 100/Vt = Vp$$

Where:

Vl = the number of valves found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

Vs = the number of valves for which repair has been delayed and are listed on the facility shutdown log.

Vt = the total number of valves in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including nonaccessible and unsafe to-monitor valves.

Vp = the percentage of leaking valves for the monitoring period.

K. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.

L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard, or an applicable National Emission Standard for Hazardous Air Pollutants and does not constitute approval of alternative standards for these regulations.

7. The outlet pneumatics line for Trains 1, 2, and 3, the Central Dust Collection System, and SiperNat Bagging (Emission Point Nos. [EPN]s 15-3-3, 15-3-4, 15-3-5, 15-3-2, and 15-3-10) shall be equipped with particulate filters that have maximum outlet particulate loading of 0.01 grains per dry standard cubic foot.

8. Opacity of emissions from all filters and the Main Building must not exceed 5 percent averaged over a six-minute period. Opacity shall be determined by the U.S. Environmental Protection Agency (EPA) Reference Method No. 9.

Storage Tanks

9. Storage tanks shall not contain VOC with an aggregate partial pressure of greater than or equal to 0.50 psia at the maximum feed temperature or 95°F, unless the tank is smaller than 25,000 gallons. Tank service is limited to the tanks and the liquids identified in the confidential files associated with the permit application PI-1 dated March 26, 2014 and the PI-1R dated June 19, 2014. Storage tanks are subject to the following:

A. Except for labels, logos, etc. not to exceed 15 percent of the tank total surface area, uninsulated tank exterior surfaces exposed to the sun shall be white or unpainted aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

B. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12 month period. The record shall include tank identification number, control method used, tank capacity in gallons, name of the material stored,

VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

Emissions from tanks shall be calculated using the methods that were used to determine the MAERT limits in the permit application PI-1 dated March 26, 2014 and the PI-1R dated June 19, 2014. Sample calculations from the application shall be attached to a copy of this permit at the plant site.

C. Temperature controlled tanks are subject to the following requirements.

(1) The chilled water drum, FIN 15-3-D6400, shall be maintained at temperature between 5 °C and 30°C.

(2) Tank temperatures below the minimum end of the range identified above are acceptable, provided that the daily tank temperature range does not exceed the range specified in the above conditions.

(3) The tank temperature shall be continuously monitored and the temperature shall be recorded daily and during tank filling.

(4) The temperature monitors shall be calibrated or have their calibrations verified on an annual basis to meet an accuracy specification of ±0.75 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C, whichever is greater. Up to 5 percent invalid monitoring data is acceptable on a rolling 12 month basis provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data); being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total tank operating hours for which quality assured data was recorded divided by the total tank hours in service. Invalid data generated due to other reasons is not allowed. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Scrubbers

10. Process emissions from the three production lines shall be routed to the scrubber system terminating with Scrubber T-6600, EPN 15-3-1. The scrubber system shall operate with no less than a 99% removal efficiency for VOC emissions, based on an hourly average.

11. The T-6600 Scrubber liquid flow rate, air flow rate, and pH shall be continuously monitored. The liquid flow rate shall be maintained at, or greater than 4222.35 gallons per minute (gpm), or be at least equal to that maintained during last satisfactory stack test performed in accordance with Special Condition No. 14. The pH shall be maintained greater than 10.5, or be at least equal to that maintained during last satisfactory stack test performed in accordance with Special Condition No. 14.

12. The liquid flow rates in Absorbers T-1646, T-2646, and T-3646 shall be continuously monitored. The liquid flow rates in Absorbers T-1646, T-2646, and T-3646 shall not be lower than the operational parameters demonstrated in the most recent satisfactory stack test conducted for Scrubber T-6600 in accordance with Special Condition No. 14 that demonstrates the removal efficiency in Special Condition No. 10.

13. The following specifications apply to the monitoring requirements in Special Conditions 10, 11, and 12 of these conditions as appropriate.

    A. The flow rates and pressure drop shall be recorded every six minutes as six-minute averages and the pH shall be recorded at least once a minute.

    B. Each flow and pressure monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of span or 5 percent of the design value. Records of the calibrations shall be maintained for at least at rolling 12 month period.

    C. Each pH monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least weekly, whichever is more frequent, and shall be accurate to within ± 0.5 pH unit. Each pH monitoring device shall be cleaned with an automatic cleaning system, or cleaned weekly using hydraulic, chemical, or mechanical cleaning. Records of the calibrations shall be maintained for at least at rolling 12 month period.

    D. Quality assured (or valid) data must be generated when the Sodium Acrylate Polymer (SAP) Plant is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the scrubber operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Stack Sampling

14. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Scrubber T-6600 to demonstrate compliance with the MAERT and Special Conditions 10. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods.

    Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air. Test waivers and alternate/equivalent procedure proposals for

Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.

(7) Procedure/parameters to be used to determine worst case emissions are flow rate and pH during the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Air contaminants emitted from the Scrubber T-6600 to be tested for include (but are not limited to) acrylic acid, isopropanol, and propanediol. The test shall also include a demonstration of the overall VOC destruction efficiency.

C. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after the increase in production resulting from the debottlenecking project and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

D. The facility being sampled shall operate at maximum production rate and under other conditions that are expected to cause maximum emissions for each air contaminate required to be tested during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

During subsequent operations, if the production rate or other parameters that are expected to cause maximum emissions are greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within

120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

one copy to the appropriate TCEQ Regional Office; and

one copy to each local air pollution control program.

F. The permit holder shall maintain copies of the most recent stack test on site for the life of control device.

Cooling Tower

15. Once the cooling tower, EPN 15-3-CT2 is operational the VOC associated with cooling tower water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate, and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly VOC emissions. The rolling 12 month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the VOC emissions between VOC monitoring periods over the rolling 12 month period. The emissions between VOC monitoring periods shall be obtained by multiplying the total cooling water mass flow between cooling water monitoring periods by the higher of the 2 VOC monitored results.

16. The cooling tower EPN 15-3-CT2 shall be operated and monitored in accordance with the following:

A. The cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.0005% drift or less. Drifts eliminators shall be maintained and inspected at least annually. The permit holder shall maintain records of all inspections and repairs.

B. Total dissolved solids (TDS) shall not exceed 4,500 parts per million by weight (ppmw). Dissolved solids in the cooling water drift are considered to be emitted as PM, PM_{10}, and $PM_{2.5}$ as represented in the permit application calculations.

C. Cooling towers shall be analyzed for particulate emissions using one of the following methods:

(1) Cooling water shall be sampled at least once per day for total dissolved solids (TDS); or

(2) TDS monitoring may be reduced to weekly if conductivity is monitored daily and TDS is calculated using a ratio of TDS-to-conductivity (in ppmw per

μmho/cm or ppmw/siemens). The ratio of TDS-to-conductivity shall be determined by concurrently monitoring TDS and conductivity on a weekly basis. The permit holder may use the average of two consecutive TDS-to-conductivity ratios to calculate daily TDS; or

(3) TDS monitoring may be reduced to quarterly if conductivity is monitored daily and TDS is calculated using a correlation factor established for each cooling tower. The correlation factor shall be the average of nine consecutive weekly TDS-to-conductivity ratios determined using C(2) above provided the highest ratio is not more than 10% larger than the smallest ratio.

(4) The permit holder shall validate the TDS-to-conductivity correlation factor once each calendar quarter. If the ratio of concurrently sampled TDS and conductivity is more than 10% higher or lower than the established factor, the permit holder shall increase TDS monitoring to weekly until a new correlation factor can be established.

D. Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.

(1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, or SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. Water samples should be capped upon collection, and transferred to a laboratory area for analysis.

(2) The analysis method for conductivity shall be either ASTM D1125-95A (field or routine laboratory testing) or ASTM D1125-95B (continuous monitor). The analysis may be conducted at the sample site or with a calibrated process conductivity meter. If a conductivity meter is used, it shall be calibrated at least annually. Documentation of the method and any associated calibration records shall be maintained.

(3) Alternate sampling and analysis methods may be used to comply with D(1) and D(2) with written approval from the TCEQ Regional Director.

(4) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.

E. Emission rates of PM, PM_{10} and $PM_{2.5}$ shall be calculated using the measured TDS and the ratio or correlation of TDS to conductivity measurements, the design drift rate and the daily maximum and average actual cooling water circulation rate for the short term and annual average rates. Alternately, the design maximum circulation rate may be used for all calculations. Emission records shall be updated monthly.

Planned Maintenance, Startup, and Shutdown

17. This permit authorizes emissions from the facilities and EPNs for the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment C) which were received at the TCEQ in Austin on and after January

4, 2008. These emissions are subject to the maximum allowable emission rates indicated on the MAERT.

Routine maintenance activities, as identified in Attachment B may be tracked through the work orders or equivalent. Emissions from activities identified in Attachment B shall be calculated using the number of work orders or equivalent that month and the emissions associated with that activity identified in the permit application.

This permit authorizes emissions from the following temporary facilities used to support planned MSS activities at permanent site facilities: vacuum trucks and portable control devices identified in Special Condition Nos. 22 and 23, and controlled recovery systems. Emissions from temporary facilities are authorized provided the temporary facility (a) does not remain on the plant site for more than 12 consecutive months, (b) is used solely to support planned MSS activities at the permanent site facilities listed in this Attachment, and (c) does not operate as a replacement for an existing authorized facility.

18. Record keeping for authorized planned MSS activities and emissions from the EPNs TAR SAPMSS and RTN SAPMSS in Attachment C is governed by this special condition. The performance of each planned MSS activity and the emissions associated with it shall be recorded and the rolling 12-month emission shall be updated on a monthly basis. These records shall include at least the following information:

    A. The process unit name and planned MSS EPN from the MAERT

    B. The type of planned MSS activity;

    C. The common name or the facility identification number of the facilities at which the MSS activity and emissions occurred;

    D. The date of the MSS activity;

    E. The estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods and activity durations identified in the permit application, dated January 4, 2008 and subsequent documentation submitted and approved by the TCEQ during the application process, consistent with good engineering practice.

    Emissions from authorized planned MSS activities listed on Attachment A shall be considered equal to the potential to emit represented in the permit amendment application. The estimated emissions from Attachment A activities must be revalidated annually. This revalidation shall consist of the estimated emissions using the same methods as represented in the permit amendment application. Paragraph A through E of this special condition do not apply to Attachment A activities.

19. Process units and facilities presented in Attachment C, received at the TCEQ in Austin on and after January 4, 2008 as depressurized, emptied, degassed, and placed in service in accordance with the following requirements.

A. The process equipment shall be depressurized to the T-6600 Scrubber, EPN 15-3-1 or a portable scrubber, purged, or sent back to the process of origin or a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence degassing and/or maintenance. Equipment that only contains material that is liquid with VOC partial pressure less than 0.50 psi at the normal process temperature or 95°F may be opened to atmosphere and drained into a closed vessel unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained. It is not necessary to cover the pan or transfer drained liquids to a covered vessel after draining liquids from any second or subsequent washing of the process equipment as long as there is no visible sheen on the liquid. Processes that are totally enclosed inside a building are exempt from the covering requirement. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded.

B. If the VOC partial pressure is equal to or greater than 0.50 psi at the normal process temperature or 95°F, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system and sent to the T-6600 Scrubber, EPN 15-3-1, a portable scrubber, or to a controlled recovery system to the extent allowed by process equipment or storage vessel design according to the representations in the permit. Degassing can be achieved by pushing material back into the process or degassing through the represented control device or represented controlled recovery system to the extent allowed by process equipment or storage vessel design. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. The control device or recovery system utilized shall be recorded with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.

For planned MSS activities identified in Attachment C, received at the TCEQ in Austin on and after January 4, 2008, either of the following requirements in paragraph 1 or 2 must be met:

(1) The facilities being prepared for maintenance shall not be vented directly to atmosphere, except as necessary to verify a VOC concentration that is 10 percent or less of the lower explosive limit (LEL) per the site safety procedures.

(2) If the process equipment is purged with a gas, two system volumes of purge gas must have passed through the control device or controlled recovery system before the vent stream may be sampled to verify acceptable VOC concentration prior to uncontrolled venting. The locations and/or identifiers where the purge gas or steam enters the process equipment or storage vessel and the exit points for the exhaust gases shall be recorded. Documented process unit procedures used to de-inventory equipment to a control device for safety purposes (i.e., hot work or vessel entry procedures) that achieve at least the same level of purging

may be used in lieu of the purge volume and recordkeeping requirement of this paragraph.

VOC monitoring shall be performed using an instrument meeting the requirements of Special Condition 20.

The sampling point shall be upstream of the inlet to the control device or controlled recovery system when the system is degassed. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. If the equipment is degassed back to the process and there is not a vent or drain valve on the equipment being purged prior to the process receiving the purge that could be used as a sample port, the sample shall be taken inside the equipment through the manway or other applicable access point to the process equipment. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL.

C. Gases and vapors with VOC partial pressure greater than 0.50 psi may be vented directly to atmosphere if all the following criteria are met:

(1) It is not technically practicable to depressurize or degas, as applicable, into the process.

(2) There is not an available connection to a plant control system (flare).

(3) There is no more than 50 lb of air contaminant to be vented to atmosphere during planned shutdown or startup, as applicable.

All instances of venting directly to atmosphere per Sub-Condition C of this Special Condition must be documented when occurring as part of any planned MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment B.

20. Air contaminant concentration shall be measured using an instrument/detector meeting one set of requirements specified below.

A. VOC concentration shall be measured using an instrument meeting all the requirements specified in EPA Method 21 (40 CFR 60, Appendix A) with the following exceptions:

(1) The instrument shall be calibrated within 24 hours of use with a calibration gas. The calibration gas used and its concentration, and the vapor to be sampled and its approximate response factor (RF), shall be recorded. If the RF of the VOC (or mixture of VOCs) to be monitored is greater than 2.0, the VOC concentration shall be determined as follows:

VOC Concentration = Concentration as read from the instrument * RF

(2) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21. During sampling, data recording shall not begin until after two

times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording the highest VOC concentration. The highest measured VOC concentration shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

B. Colorimetric gas detector tubes may be used to determine air contaminant concentrations if they are used in accordance with the following requirements.

(1) The air contaminant concentration measured must be within the range of the NH_3 colorimetric gas detector tube.

(2) The tube is used in accordance with the manufacturer's guidelines.

(3) At least 2 samples taken at least 5 minutes apart.

(4) The measured contaminant concentration of the samples must be equal to or lower than the NH_3 release concentration represented in the permit amendment application and used to calculate the planned MSS activity emission rates for Pressure Safety Valves (PSVs) in NH_3 service.

C. Lower explosive limit (LEL) measured with a lower explosive limit detector.

(1) The detector shall be calibrated quarterly with a certified pentane gas standard at 50% of the LEL for pentane. Records of the calibration date and calibration result (pass/fail) shall be maintained.

(2) Within 24 hours prior to using for planned MSS activity monitoring, a functionality test shall be performed on each detector using a certified gas standard at 50% of the LEL for pentane. The LEL monitor shall read no lower than 90% of the calibration gas certified value without any adjustments to the instrument. Records, including the date/time and test results, shall be maintained.

(3) A certified methane gas standard equivalent to 50% of the LEL for pentane may be used for calibration and functionality tests provided that the LEL response is within 95% of that for pentane.

D. Draeger Chip Measurement System (CMS) may be used to determine NH_3 concentrations if it is used in accordance with the following requirements.

(1) The air contaminant concentration measured must be within the range of the NH_3 chip used.

(2) The Draeger CMS is used in accordance with the manufacturer's guidelines.

(3) At least two samples taken at least five minutes apart.

(4) The measured contaminant concentration of the samples must be equal to or lower than the NH_3 release concentration represented in the permit amendment application and used to calculate the planned MSS activity emission rates for Pressure Safety Valves (PSVs) in NH_3 service.

(5) Records shall be maintained of the tube type, range, measured concentrations and time the samples were taken.

21. If the removal of a component, subject to Special Condition 6 of this permit for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

    A. a cap, blind flange, plug, or second valve must be installed on the line or valve; or

    B. the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once at the end of the 72 hour period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings 500 ppmv above background and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

22. Control devices required by this permit for emissions from planned MSS activities are limited to the T-6600 Scrubber, EPN 15-3-1, or a portable scrubber. Control devices shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. Each device used must meet all the requirements identified for that type of control device.

    Controlled recovery systems identified in this permit shall be directed to an operating process or to a collection system that is vented through a control device meeting the requirements of these special condition

    A portable liquid scrubbing system may be used as the sole control device if the requirements below are satisfied.

    A. The exhaust to atmosphere shall be monitored continuously and the VOC concentration recorded at least once every 15 minutes when waste gas is directed to the scrubber.

    B. The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition No. 20A.

    C. An alarm shall be installed such that an operator is alerted when outlet VOC concentration exceeds 100 ppmv above background. The MSS activity shall be stopped as soon as possible when the VOC concentration exceeds 100 ppmv above background for more than one minute. The date and time of all alarms and the actions taken shall be recorded.

23. The following requirements apply to VOC handling vacuum and air mover truck operations to support planned MSS at this site:

    A. Liquids with a VOC partial pressure greater than 0.5 psia may be loaded into vacuum trucks using a positive displacement pump. Other pumps and vacuum blowers shall

not be operated on trucks containing or vacuuming liquids with VOC partial pressure greater than 0.50 psi at 95°F unless the vacuum/blower exhaust is routed to a control device or a controlled recovery system.

B. Equip fill line intake with a "duckbill" or equivalent attachment if the hose end cannot be submerged in the liquid being collected.

C. A daily record containing the information identified below is required for each vacuum truck in operation at the site each day.

(1) Prior to initial use in performing planned MSS, identify any liquid in the truck. Record the liquid level and document that the VOC partial pressure is less than 0.50 psi if the vacuum exhaust is not routed to a control device or a controlled recovery system. After each liquid transfer using a vacuum blower, identify the liquid transferred and document that the VOC partial pressure is less than 0.50 psi if the vacuum exhaust is not routed to a control device or a controlled recovery system.

(2) For each liquid transfer made with the vacuum operating, record the duration of any periods when air may have been entrained with the liquid transfer. The reason for operating in this manner and whether a "duckbill" or equivalent was used shall be recorded. Short, incidental periods, such as those necessary to walk from the truck to the fill line intake, do not need to be documented.

(3) If the vacuum truck exhaust is controlled with a control device other than an engine or oxidizer, VOC exhaust concentration upon commencing each transfer, at the end of each transfer, and at least every hour during each transfer shall be recorded, measured using an instrument meeting the requirements of Special Condition 20.

(4) The volume in the vacuum truck at the end of the day, or the volume unloaded, as applicable.

D. The permit holder shall determine the vacuum truck emissions each month using the daily vacuum truck records and the calculation methods utilized in the permit application. If records of the volume of liquid transferred for each pick-up are not maintained, the emissions shall be determined using the physical properties of the liquid vacuumed with the greatest potential emissions. Rolling 12 month vacuum truck emissions shall also be determined on a monthly basis.

E. If the VOC partial pressure of all the liquids vacuumed into the truck is less than 0.10 psi, this shall be recorded when the truck is unloaded or leaves the plant site and the emissions may be estimated as the maximum potential to emit for a truck in that service as documented in the permit application. The recordkeeping requirements in Special Condition 18A through 18D do not apply.

24. MSS activities represented in the permit application may be authorized under permit by rule only if the procedures, emission controls, monitoring, and recordkeeping are the same as those required by this permit.

Compliance Assurance Monitoring

25. The following requirements apply to capture systems for the T-6600 Scrubber, EPN 15-3-1:

    A. Either conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21 once a year. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.

    B. The T-6600 Scrubber shall not have a bypass.

    C. The date and results of each inspection performed shall be recorded. If the results of any inspection are not satisfactory, the deficiencies shall be recorded and the permit holder shall promptly take necessary corrective action, recording each action with the date completed.

Referenced Permit by Rule Authorizations

26. The following sources and/or activities are authorized under a Permit by Rule (PBR) by Title 30 Texas Administrative Code Chapter 106 (30 TAC Chapter 106). These lists are not intended to be all inclusive and can be altered without modifications to this permit.

Authorization	Source or Activity
Unregistered under §106.511	Backup Diesel Generator
Registration No. 102885	Pilot Plant
Registration No. 112554	SiperNat Conveying and Bagging Operations at Trains 1 and 2.

Dated October 20, 2015

Attachment A

Inherently Low VOC Emitting Activities

Maintenance on water treatment systems (cooling, boiler, potable)
Management of sludge from pits, ponds, sumps, and water conveyances
Aerosol Cans

Dated October 20, 2015

Attachment B

Routine Maintenance Activities

Pump repair/replacement

Fugitive component (valve, pipe, flange) repair/replacement

Compressor repair/replacement

Heat exchanger repair/replacement

Vessel repair/replacement

Dated: October 20, 2015

Attachment C

MSS Activity Summary for SAP Plant MSS

Facilities	Description	EPN
IPA Tower	Shut-down maintenance on IPA Tower	TAR SAPMSS
Small Equipment and Process Vessel	clearing/purging/draining/de gassing	TAR SAPMSS RTN SAPMSS
Vacuum Trucks	Removing material from sumps	TAR SAPMSS RTN SAPMSS
see Attachment A	miscellaneous low emitting activities	TAR SAPMSS RTN SAPMSS
see Attachment B	miscellaneous routine maintenance activities	TAR SAPMSS RTN SAPMSS

Dated: October 20, 2015

Emission Sources - Maximum Allowable Emission Rates

Permit Number 55239 and N126

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
15-3-1	T-6600 Scrubber Outlet (6)	Acrylic Acid	1.67	7.25
		VOC	2.86	12.45
15-3-2	Central Dust Collection Outlet	PM	0.33	0.73
		PM_{10}	0.33	0.73
		$PM_{2.5}$	0.33	0.73
15-3-3	Outlet Pneumatics Line - Train 1	PM	1.16	2.23
		PM_{10}	1.16	2.23
		$PM_{2.5}$	1.16	2.23
15-3-4	Outlet Pneumatics Line - Train 2	PM	1.15	2.20
		PM_{10}	1.15	2.20
		$PM_{2.5}$	1.15	2.20
15-3-5	Outlet Pneumatics Line - Train 3	PM	1.15	2.20
		PM_{10}	1.15	2.20
		$PM_{2.5}$	1.15	2.20
15-3-7	Propanediol Storage Tank	VOC	0.18	<0.01
15-3-8	Isopropanol Storage Tank	VOC	30.29	0.10
15-3-10	SiperNat Bagging	PM	0.32	1.40
		PM_{10}	0.32	1.40
		$PM_{2.5}$	0.32	1.40
15-3-11	Waste Water Tank No. 1	VOC	0.13	<0.01
15-3-12	Chilled Water/EG Tank	VOC	<0.01	<0.01
15-3-15	Ethylene Carbonate Storage Tank	VOC	<0.01	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
15-3-16	Aluminum Lactate Storage Tank	VOC	<0.01	<0.01
15-3-17	Polyethylene Polymer Solution Tank	VOC	<0.01	<0.01
15-3-18	FF7 Storage Tank Loading	PM	<0.01	<0.01
		PM_{10}	<0.01	<0.01
		$PM_{2.5}$	<0.01	<0.01
15-3-D6049	PE7 Storage Tank	VOC	<0.01	<0.01
15-3-D6050	PE7 Storage Tank	VOC	<0.01	<0.01
15-3-FUGS	Fugitives (5)(6)	Acrylic Acid	0.04	0.20
		VOC	0.05	0.20
15-3-RecFu	Isopropanol Recovery System Fugitives (5)	Isopropanol	0.03	0.13
15-3-CT2	Cooling Tower	VOC	0.11	0.48
		PM	0.12	0.54
		PM_{10}	0.08	0.36
		$PM_{2.5}$	0.03	0.13
TAR SAPMSS	Plant Turnaround MSS Emissions	VOC	34.85	0.56
		NH_3	0.06	0.01
		PM	0.04	0.19
		PM_{10}	0.04	0.19
		$PM_{2.5}$	0.04	0.19
RTN SAPMSS	Routine MSS Emissions	VOC	20.99	0.86
		NH_3	0.05	0.01
		PM	0.05	0.20
		PM_{10}	0.05	0.20
		$PM_{2.5}$	0.05	0.20

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NH_3 - ammonia
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Acrylic acid emissions are included in the VOC emission rates for this EPN.

Date: October 20, 2015